c.) Amendments to the Claims

1. (previously cancelled)

2. (cancelled)

3. (cancelled)

4. (previously allowed) A method for launching a spacecraft into an earth orbit, including the steps of:

providing a spacecraft having a lifting body and at least one rocket engine;

supporting the spacecraft on a ground-based vehicle;

providing a turbojet engine to power the ground-based vehicle;

operating the turbojet engine to accelerate the ground-based vehicle and spacecraft horizontally to achieve aerodynamic takeoff speed of the spacecraft;

separating the spacecraft from the ground-based vehicle;

said at least one rocket engine powering the spacecraft from horizontal liftoff to earth orbit;

said spacecraft thereafter reentering the atmosphere and gliding back to the earth;

refurbishing and reusing the spacecraft after gliding back to earth;

providing the spacecraft with a removable unitary belly assembly extending to cover the bottom surfaces of the entire spacecraft, and replacing the belly assembly during refurbishing of the spacecraft.

5. (previously cancelled).

6. (cancelled)

7. (cancelled)

8. (cancelled)

9. (cancelled)

10. (cancelled)

11. (cancelled)

12. (cancelled)

13. (cancelled)

14. (cancelled)

15. (cancelled)

16. (cancelled)

17. (cancelled)

18. (cancelled)

19. (cancelled)

20. (cancelled)

21. (amended) The system for launching a spacecraft of claim ~~20~~ 34 wherein each of said second plurality of fuel tank assemblies is generally lenticular in outer configuration, including an upper convex surface that comprises a portion of the outer surface of said spacecraft.

22. (cancelled)

23. (cancelled)

24. (cancelled)

25. (cancelled)

26. (cancelled)

27. (previously cancelled)

28. (cancelled)

29. (cancelled)

30. (cancelled)

31. (cancelled)

32. (cancelled)

33. (previously allowed) A system for launching a spacecraft into earth orbit, including:

a spacecraft having a lifting body and at least one rocket engine;

a ground-based vehicle for supporting said spacecraft during launch, said ground-based vehicle including a means for accelerating said spacecraft horizontally to achieve aerodynamic takeoff speed;

means for separating the spacecraft from said ground-based vehicle when said spacecraft attains aerodynamic takeoff speed;

said at least one rocket engine powering said spacecraft from horizontal liftoff to earth orbit;

said spacecraft being capable of reentering and gliding in the atmosphere to return to earth;

said spacecraft including a main body section and laterally opposed wings;

a pair of vertical stabilizers, each extending from an outboard portion of each of said wings;

a pair of elevons, each extending from one of said vertical stabilizer to said main body section.

34. (new; previously allowable claim 20) A system for launching a spacecraft into earth orbit, including:

a spacecraft having a lifting body and at least one rocket engine;

a ground-based vehicle for supporting said spacecraft during launch, said ground-based vehicle including at least one turbojet engine in said ground-based vehicle or accelerating said ground-based vehicle and spacecraft horizontally to achieve aerodynamic takeoff speed;

means for separating the spacecraft from said ground-based vehicle when said spacecraft attains aerodynamic takeoff speed;

said at least one rocket engine powering said spacecraft from horizontal liftoff to reach orbit;

said spacecraft being capable of reentering and gliding in the atmosphere to return to earth,

said spacecraft including a non-monocogue internal structural framework;

said internal structural framework including a pair of main spar assemblies extending longitudinally in said spacecraft, said main spar assemblies being spaced apart equally about the centerline of said spacecraft;

a plurality of crossbeams extending laterally and spaced apart longitudinally in said spacecraft, said crossbeams being secured to said main spar assemblies;

said crossbeams including outboard portions extending laterally outwardly of said main spar assemblies;

a first plurality of fuel tanks disposed in said spacecraft, said first plurality of fuel tanks being secured to said outboard portions of said crossbeams;

a second plurality of fuel tank assemblies disposed in said claim spacecraft, each of said second plurality of fuel tank assemblies including an upper surface that comprises an upper outer surface portion of said spacecraft.

35. (new; previously allowable claim 31) A system for launching a spacecraft into earth orbit, including:

a spacecraft having a lifting body and at least one rocket engine;

a ground-based vehicle for supporting said spacecraft during launch, said ground-based vehicle including means for accelerating said spacecraft during launch, said ground-based vehicle including means for accelerating said spacecraft horizontally to achieve aerodynamic takeoff speed;

means for separating the spacecraft from said ground-based vehicle when said spacecraft

attains aerodynamic takeoff speed;

means for separating the spacecraft from said ground-based vehicle when said spacecraft attains aerodynamic takeoff speed;

said at least one rocket engine powering said spacecraft from horizontal liftoff to earth orbit;

said spacecraft being capable of reentering and gliding in the atmosphere to return to earth;

said spacecraft including a main body section and laterally opposed wings, and a continuous bottom surface extending along said main body section and said wings; and

a unitary replaceable belly assembly forming said continuous bottom surface of said main body section and said wings, said belly assembly being removable as a unit from said spacecraft and replaceable, said belly assembly including a plurality of reinforcing members and a plurality of insulation layers laminated to said reinforcing members, and further including a leading edge portion, said system further including a leading edge assembly secured to said leading edge portion of said belly assembly.